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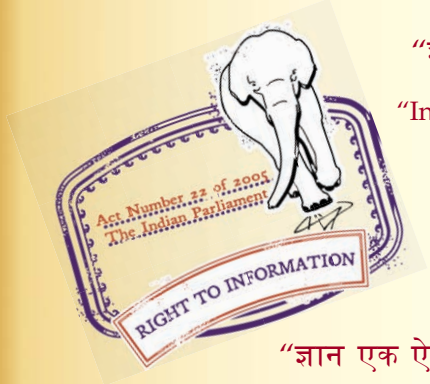

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IS : 4605 - 1981
(Reaffirmed 1997)

Indian Standard

SPECIFICATION FOR CREPE BANDAGE

(First Revision)

UDC 615·468 23

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Price Rs 5·00

July 1981

Indian Standard

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(First Revision)

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(*Continued on page* 2)

(*Continued from page* 1)

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Indian Standard

SPECIFICATION FOR CREPE BANDAGE

(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 27 February 1981, after the draft finalized by the Surgical Dressings Sectional Committee had been approved by the Consumer Products and Medical Instruments Division Council.

0.2 This standard was first published in 1968. Since then many suggestions were received for improvement which after the consideration have been incorporated in this revision.

0.3 Crepe bandage consists of characteristic fabric of plain weave, in which the warp threads are crepe-twisted for ensuring maximum elasticity.

0.4 Crepe bandage is used for dressing of varicose veins, weak ankles, legs, knees and wrists in case of sprains and other conditions in which light support is required.

0.5 In preparing this standard, considerable assistance has been derived from IND/MED/TC/1533 'Bandage crepe' issued by the Ministry of Defence, Government of India.

0.6 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

---

1. SCOPE

1.1 This standard covers requirements pertaining to material, construction and performance of crepe bandage.

*Rules for rounding off numerical values (*revised*).

2. MATERIAL

2.1 Cotton or mixture of rayon and cotton shall be used in the manufacture of crepe bandage. In case of mixture, the quantity of rayon, when tested as per the method given in IS : 1889 (Part I)-1976* shall be not more than 25 percent. The bandage shall be free from cotton leaf and shell, neps, kitties and other objectionable impurities. It may be dyed flesh coloured with a suitable non-toxic dye.

3. DIMENSIONS

3.1 Width and length shall be as agreed to between the purchaser and the supplier. Recommended sizes are as follows:

Width (cm) (*Unstretched*)	*Length* (m) (*Stretched*)
6 ± 0·5 8 ± 0·5 10 ± 0·5 15 ± 0·5	4 ± 10 cm

3.1.1 The length of the bandage shall be determined by the method given in Appendix A.

4. MANUFACTURE, WORKMANSHIP AND FINISH

4.1 The bandage shall be woven in plain weave with yarns as described below.

4.1.1 *Warp Yarns* — Warp yarns shall consist of two fold cotton yarn with a finished count, after crepe-twisting, not finer than 23 tex × 2 (or 26s/2) and each thread containing not less than 17 folding turns per cm. They are arranged as two threads S-twist and two threads Z-twist, repeated.

4.1.1.1 Turns per cm shall be determined by method given in IS : 832-1964†.

4.1.2 *Weft Yarns* — Weft yarns shall consist of cotton or rayon staple fibre, or cotton and rayon staple fibre spun together, with a count not finer than 30 tex (or 20s).

NOTE — To convert universal count in tex to cotton count, divide 590-5 by the universal count.

4.2 The selvedges of the bandage shall be secured either by leno weave or by suitable selvedge ends so as to ensure that the edges do not fray off and the stretchability and recovery are not affected.

*Method for quantitative chemical analysis of binary mixtures of regenerated cellulose fibres and cotton: Part I Sodium zincate method.

†Method for determination of twist in yarn.

4.3 The bandage shall meet the requirements given in **5**.

5. REQUIREMENTS

5.1 Threads per Stated Length

Ends : Not less than 160 dm.

Picks : Not less than 78 per dm, determined on the fully stretched bandage.

5.1.1 The ends and picks for the bandage shall be determined by the method given in Appendix B.

5.2 Weight per Unit Area — The weight of the bandage in fully stretched conditions shall be not less than 114 g/m^2.

5.2.1 The weight per unit area of the bandage shall be determined by the method given in Appendix C.

5.3 Stretchability — The stretchability of the bandage shall be not less than 100 percent when tested as described in Appendix D.

5.4 Recovery — The length of the test specimen of the stretched bandage after release shall be not more than four-fifth of the stretched length when determined as described in Appendix D.

5.5 Chemical Neutrality — The bandage shall be held chemically neutral if the *p*H value of the aqueous extract is 6 to 8·5 when determined according to ' hot method ' given in **6.3** of IS : 1390-1961*.

5.6 Breaking Load — It shall be minimum 150 N (15 kgf) on 20 cm test length when tested by the method given in IS : 1969-1968†.

5.7 The loss on scouring of the bandage shall not exceed 3 percent when tested according to IS : 1383-1977‡.

6. TESTS

6.1 Conditioning — Each roll of bandage selected for test shall be conditioned for a maximum period of 24 hours at 27 ± 2°C and 65 ± 5 percent relative humidity (*see* IS : 196-1966§) prior to testing, and testing shall be in the same atmosphere. When the tests cannot be

*Methods for determination of *p*H value of aqueous extracts of textile materials.

†Method for determination of breaking load and elongation at break of woven textile fabrics (*first revision*).

‡Method for determination of scouring loss in grey and finished cotton textile materials (*first revision*).

§Specification for atmospheric conditions for testing (*revised*).

carried out in the same atmosphere, the testing shall be commenced within two minutes of withdrawal of specimens from the conditioning atmosphere.

6.2 The outer three layers of each roll shall be discarded before taking the specimen for test.

7. PACKING AND MARKING

7.1 Packing — The bandage shall be rolled and packed suitably to prevent contamination from dust.

7.2 Marking

7.2.1 The package shall be marked with the following information:

a) Name and trade-mark of the manufacturer;

b) Colour, if any;

c) Width and stretched length; and

d) Batch number.

7.2.2 Packages may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

APPENDIX A

(*Clause* 3.1.1)

METHOD FOR DETERMINATION OF LENGTH OF THE BANDAGE

A-1. TEST SPECIMEN

A-1.1 For the purpose of this test, all rolls in the test sample constitute the test specimen.

A-2. PROCEDURE

A-2.1 Unroll the bandage and fix a convenient portion about 5 cm at each end in suitable grips. Measure the length of the unstretched bandage. Stretch the bandage by applying a load of 1 kgf/cm of width. After one minute, measure the length of the stretched bandage between the two grips.

APPENDIX B

(*Clause* 5.1.1)

METHOD FOR DETERMINATION OF ENDS AND PICKS PER DECIMETRE

B-1. TEST SPECIMEN

B-1.1 For the purpose of this test, all rolls in the test sample shall constitute the test specimen.

B-2. PROCEDURE

B-2.1 Ends in Full Width — Cut a piece of about 5 cm length of the bandage from the test specimen and pull out all the ends and count them.

B-2.2 Picks per Decimetre — Lay the bandage and stretch it by applying a load of 1 kgf/cm of width. Take 5 readings at different places by means of a suitable counting glass. Take the average and calculate the number of picks per decimetre.

APPENDIX C

(*Clause* 5.2.1)

METHOD FOR DETERMINATION OF WEIGHT PER UNIT AREA

C-1. TEST SPECIMEN

C-1.1 For the purpose of this test, all rolls in the test sample shall constitute the test specimen.

C-2. PROCEDURE

C-2.1 Determine weight of the roll of bandage, the length of which has been determined as prescribed in Appendix A.

C-2.2 Calculate the weight per unit area from the weight obtained as above and the length obtained as in Appendix A.

APPENDIX D

(*Clause* 5.3)

METHOD FOR DETERMINATION OF STRETCHABILITY AND RECOVERY

D-1. PREPARATIONS OF TEST SPECIMEN

D-1.1 Cut three test strips of a length of 30 cm each from the bandage. Mark two parallel lines across the piece at a distance of 20 cm from each other, starting at a distance of 5 cm from one end.

D-2. PROCEDURE

D-2.1 Stretchability — Fix one end of the material in a fixed grip and other in a movable grip in such a way the gauge marks are visible between the grips and the material can stretch longitudinally (crepe yarn way). Suspend a load of 1 kgf/cm of width on the movable grip (weight of movable grip shall be taken into account) and determine the stretched length between the marks. Express the increase in length as percentage of the unstretched length of the sample.

D-2.2 Recovery — Keep the fabric under tension of 1 kgf/cm of width as given in **D-2.1**. Remove the fabric from grips and lay on a smooth felt surface without any tension. After 5 minutes measure the distance between the two marks.

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

Quantity	Unit	Symbol
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	Unit	Symbol
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	Unit	Symbol	Definition
Force	newton	N	1 N = 1 kg.m/s^2
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m^2
Frequency	hertz	Hz	1 Hz = 1 c/s (s^{-1})
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m^2

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Printed at Printograph, New Delhi, India

AMENDMENT NO. 1 JULY 1987

TO

IS:4605-1981 SPECIFICATION FOR CREPE BANDAGE

(First Revision)

(Page 8, clause D-2.1, line 5) - Add the words 'for a period of one minute' in between the words '(weight of movable grip shall be taken into account)' and 'and determine'.

(CPDC 19)

Reprography Unit, BIS, New Delhi, India

AMENDMENT NO. 2 SEPTEMBER 2000
TO
IS 4605 : 1981 SPECIFICATION FOR CREPE BANDAGE

(First Revision)

(*Page* 4, *clause* 3.1, *Lengths* (*m*) (*Stretched*) *col*] — Substitute 'Not less than 4' *for* '4 ± 10 cm'.

(MHD 15)

Reprography Unit, BIS, New Delhi, India